TITLE: **Measurement of ozone reactivity for major pesticide VOCs**

PROBLEM: The ozone reactivity of many pesticide VOCs is not well known. Experimental measurements have been made for only a few of the pesticide VOCs most commonly used in California.

PREVIOUS WORK: UC Riverside has measured the ozone reactivity of several pesticide VOCs using environmental chamber experiments. Ozone reactivities have been measured for methyl bromide and chloropicrin, which collectively account for 34% of the total statewide pesticide VOC inventory. The analytical methods developed in these studies can be used to determine the ozone reactivities of other pesticide VOCs.

OBJECTIVE: Develop technically sound ozone reactivity factors for the most commonly used pesticide VOCs in California.

DESCRIPTION: Measure the ozone reactivity of five pesticide VOCs using environmental chamber irradiation experiments. Compounds most likely to be measured are methyl isothiocyanate, 1,3-dichloropropene, chlorpyrifos, thiobencarb, and EPTC. These five cumulatively account for approximately 30 % of the total statewide VOC inventory and are all active ingredients. The list of compounds to be measured may change should new information become available.

BENEFITS: As ozone SIPs are developed for the San Joaquin Valley and other agricultural areas in California, a sound understanding of the impacts of pesticides on ozone formation is needed. Experimentally determined ozone reactivities will improve air quality modeling as well as the development of scientifically defensible control strategies for pesticides.

COST: $100,000

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